

**Work Order ID 60611**

Thursday, July 15, 2010 10:25:02 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/15/2010 Start Qty: 1.00

Required Date: 7/22/2010 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:


Approvals: Process Plan:   *H*  Date: 10-7-15 Tooling:           Date:           

Run Start

QC:           Date:            SPC (Y/N):           Date:           

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3274	D								
IIN-D206-642	Rev M								
100	DOCUMENT CONTROL	0.00							
									
DC	Memo	0.00							
Document Control	Photocopy bluefile & type labels per PPP D206-642-541								

CHG003

N/A *[Signature]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD and foilo 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

DP 10-7-20

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

M 10/7/20

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch:

M12507/M114242

BE 10/07/20

4- grind fwd cap weld on top surface only

BE 10/07/20

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D.  
Drill 3/16" pilot holes as per Dwg D32748 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe  
batch #

3 BE 10/07/20

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00  0.00				1	11	10/7/21	
130  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00							8/10/21
140  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00							8/10/21

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

0.00



Skidtubes

Skidtubes

**Memo**

0.00

1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 &amp; QSI 015.

A/R ☐ SikaFlex-291 ☒ M115114 ☐SikaFlex expire date: ☐ 11-1-30 ☐Start: ☒ 10-7-21 Time: ☒ 4:15 ☐Finish: ☒ 10-7-22 Time: ☒ 2:30 ☐

(Adhere for 12 hours)

160

QC5- Inspect part completeness to step on W/O

0.00



QC

**Memo**

0.00

Quality Control

S. Solatz

④

10-7-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170  Skidtubes	Skidtubes	0.00							
Skidtubes	<b>Memo</b> 1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.  2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Debur  3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES  4- Countersink crossbolt spacer holes as per Dwg D3274  5- prepare for welding	0.00							
180  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	<b>Memo</b> L=22.95" L=4.5"	0.00							

N 10/7/26

S  
10/07/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R ☐ Aluminum Rod M112507

BE 10/07/27

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

10-7-28

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/27/28

70

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8/6/28

①

220



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

Memo

0.00

⇒ 9/10/28

1/10

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

230



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

START TIME: 8:30  
OVEN TEMPERATURE: 300°  
FINISH TIME: 9:00

1 BL 10-729

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 7/15/2010 Start Qty: 1.00



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Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 	QC3- Inspect Part Finish	0.00							
QC Quality Control	Memo	0.00				1	0		
250 	HandFinishing	0.00							
HandFinish Hand Finishing	Memo 1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. ✓ A/R <input type="checkbox"/> N/A <input type="checkbox"/> LPS-3 <input type="checkbox"/> M1189956 2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/R <input type="checkbox"/> <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> M115114 ✓ Sikaflex expire date: <input type="checkbox"/> 11/01	0.00				1	0		
260 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo Inspect Nut Plate & Inserts	0.00				M1	10	03	02⑦

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Item ID:	D206-642-541	Accept		Setup	Start	
Revision ID:					Stop	
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Start Date:	7/15/2010	Start Qty:	1.00		Cust Item ID:	
Required Date:	7/22/2010	Req'd Qty:	1.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270 	HAND FINISHING RESOURCE #1	0.00							
HandFinish	Memo	0.00							
Hand Finishing	<div><div>1-Install wearpads &amp; gaskets as per Dwg D3274.</div><div>2-Install ring as per Dwg D3274 A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> <u>M115114</u> Sikaflex expire date: <input type="checkbox"/> <u>11/01</u></div><div>3-Inspect for foreign objects as per QSI 024</div><div>4-Spray inside of tube on both sides of web with LPS-3 <input checked="" type="checkbox"/> A/R LPS-3 Batch: <u>N/A</u></div><div>5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> <u>M115114</u> Sikaflex expire date: <input type="checkbox"/> <u>11/01</u></div></div>								
280 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

M115114 10 09 02 ①

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

290

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

PPP 60605 0.00

Packaging

Per 10/9/10

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/09/13

CD 10/9/13

W/O:		WORK ORDER CHANGES					
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# Picklist Print

Thursday, July 15, 2010 10:25:06 AM

Page 1

Work Order ID: 60611

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC  
 IPP Rev:F 08-06-02 add comment DD verified by:EC  
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D2600-1-190

Manufactured No

110

Each

32.0000

1

1



Extrusion Round 3" 206

Location

Loc Qty

Loc Code

LG

32

47575

32



10-7-20

D3285-1

Manufactured No

110

Each

149.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG

149

52511

74

52647

75



BE 10/07/21

D3282-041

Manufactured No

150

Each

9.0000

1

1



Float Web (206L/407)

Location

Loc Qty

Loc Code

LG

9

59886

9



10-7-21

W/O:		WORK ORDER CHANGES					
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Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190 Each

69.0000

1 1



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

69

58545

69

B60652 x12

BE 10/07/27

D3275-1

Manufactured No

190 Each

17.0000

12 12



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

17

53453

8

57513

9

B60653 x12

BE 10/07/27

CR3212-4-03

Purchased No

250 Each

3,739.000

2 2



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

3739

111359

5

112314

30

114436

1142

114450

564

114859

1998

x2

D3415-041

Manufactured No

250 Each

61.0000

1 1



Nut Plate

Location

Loc Qty

Loc Code

ST056

61

33842

61

x1

Thursday, July 15, 2010 10:25:07 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Thursday, July 15, 2010 10:25:07 AM

Page 3

Work Order ID: 60611

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010

Start Qty: 1.00

Required Qty: 1.00

CCR264SS3-3

Purchased

No

250

Each

540.0000

2

2



Cherry Rivet



HL 10/09/03

Location

Loc Qty

Loc Code

ST311

540

112314

4

113539

60

113973

476

x2

ALS4-1032-130

Purchased

No

250

Each

4,506.000

78

78



Insert



HL 10/09/03

Location

Loc Qty

Loc Code

PKG11

4190

114723

4190

x78

ST282

277

110511

38

114407

239

ST381

39

114654

39

D3536-15

Manufactured

No

270

Each

13.0000

1

1



Gasket



HL 10/09/03

Location

Loc Qty

Loc Code

FP

6

56055

6

FP11

7

59238

7

x1

Thursday, July 15, 2010 10:25:07 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 15, 2010 10:25:07 AM

Page 4

Work Order ID: 60611

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010

Start Qty: 1.00

Required Qty: 1.00

D3536-23	Manufactured	No	270	Each	6.0000	1	1
							<u>yl 10/09/03</u>
Gasket							

Location

Loc Qty

Loc Code

FP011



6

B60234

58819

6

x1

D3536-35	Manufactured	No	270	Each	11.0000	1	1
							<u>yl 10/09/03</u>
Gasket							

Location

Loc Qty

Loc Code

FP012



11

B60235

58683

11

x1

D3536-39	Manufactured	No	270	Each	21.0000	1	1
							<u>yl 10/09/03</u>
Gasket							

Location

Loc Qty

Loc Code

FP12

21



58215

7

x2

58571

14

D3535-15	Manufactured	No	270	Each	10.0000	1	1
							<u>yl 10/09/03</u>
Wearshoe							

Location

Loc Qty

Loc Code



FP18

10

59236

10

x1

D3535-35	Manufactured	No	270	Each	7.0000	1	1
							<u>yl 10/09/03</u>
Wearshoe							

Location

Loc Qty

Loc Code

FP018

7

59237

7

B60232

x1

Thursday, July 15, 2010 10:25:07 AM

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 15, 2010 10:25:07 AM

Page 5

Work Order ID: 60611

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010



Start Qty: 1.00

Required Qty: 1.00

D3535-39	Manufactured	No	270	Each	8.0000	1	1
							<u>24 10/09/03</u>
Wearshoe							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP18	8	
<u>58214</u>	8	<u>X1</u>

D3535-23	Manufactured	No	270	Each	5.0000	1	1
							<u>24 10/09/07</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------



FP21	5	<u>B 60231</u>
57730	5	<u>1</u>

D3537-3	Manufactured	No	270	Each	20.0000	1	1
							<u>24 10/09/07</u>
Wearpad							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP17	4	
57512	4	

FP19	16	
<u>59711</u>	16	<u>X1</u>

D3537-1	Manufactured	No	270	Each	44.0000	9	9
							<u>24 10/09/07</u>
Wearpad							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP	1	<u>B 61201</u>
55465	1	<u>X9</u>

FP17	43	
57713	3	
59593	40	

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 15, 2010 10:25:07 AM

Page 6

Work Order ID: 60611

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C10L NAS1149C0332 R Purchased No

270 Each

0.0000 80 80



washer

1115000



Y80 JH 10/09/03

AN960C416 NAS1149C0463 R Purchased No

270 Each

113.0000 1 1



washer



JH 10/09/03

## Location

## Loc Qty

## Loc Code

ST346

113

100993

113

D3672-1 Manufactured No

270 Each

1,033.000 2



Phenolic Washer



X1  
2

JH 10/09/03

## Location

## Loc Qty

## Loc Code

ST077

1033

51674

33

52505

1000

AN3C4A Purchased No

270 Each

1,559.000 80



BOLT



X2  
80

JH 10/09/03

## Location

## Loc Qty

## Loc Code

ST350

1559

114103

501

114108

14

114416

12

114523

2

114859

30

114941

1000

1115438

Y80

Thursday, July 15, 2010 10:25:07 AM

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Picklist Print

Thursday, July 15, 2010 10:25:07 AM

Page 7

Work Order ID: 60611

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 7/15/2010

Required Date: 7/22/2010



Start Qty: 1.00

Required Qty: 1.00

AN4C5A	Purchased	No	270	Each	513.0000	1	1
							21 10/09/03
BOLT							



Location	Loc Qty	Loc Code
ST346	513	
110552	13	
112243	500	

21

D2646	Manufactured	No	270	Each	94.0000	1	1
							21 10/09/07
Aft Cap							

Location	Loc Qty	Loc Code
FP-4	85	
57332	85	
FP6	9	
52663	9	

21

D3413-1	Manufactured	No	270	Each	31.0000	1	1
							21 10/09/03
Ring							

Location	Loc Qty	Loc Code
ST473	31	
51586	1	
53446	23	
58524	7	

BG1322

21

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



SHDPCO  
RETURN  
ENGINEER  
ROLL  
CON  
TO AM  
WITHOUT NOTICE  
WORK ORDER  
NO. 10611  
P/O 7-15

RELEASED

07.02.12

DEO ATTACHED

DESIGN	CP	DRAWN BY	PH	DART AEROSPACE USA, INC.	
				PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO.	REV. D
				D3274	SHEET 1 OF 4
DATE				TITLE	
06.12.19				SKIDTUBE ASSEMBLY	
				SCALE	
				NTS	
A	04.03.15	NEW ISSUE			
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76			
C	05.03.16	ADD -043; NEW INSERTS			
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET			

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

#### GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

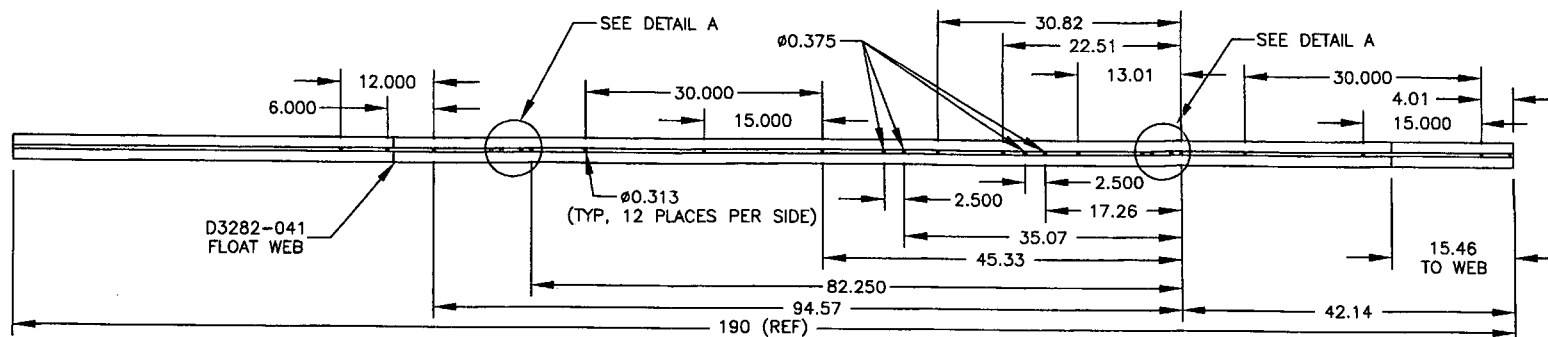
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

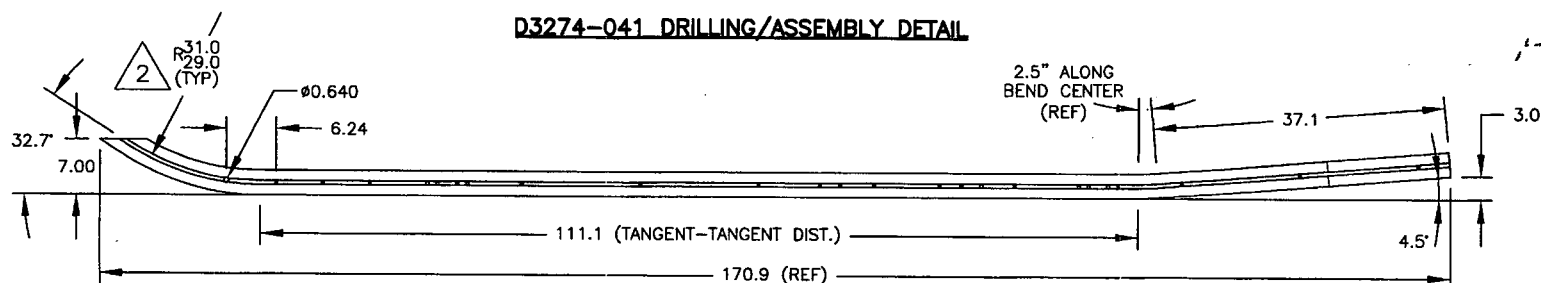
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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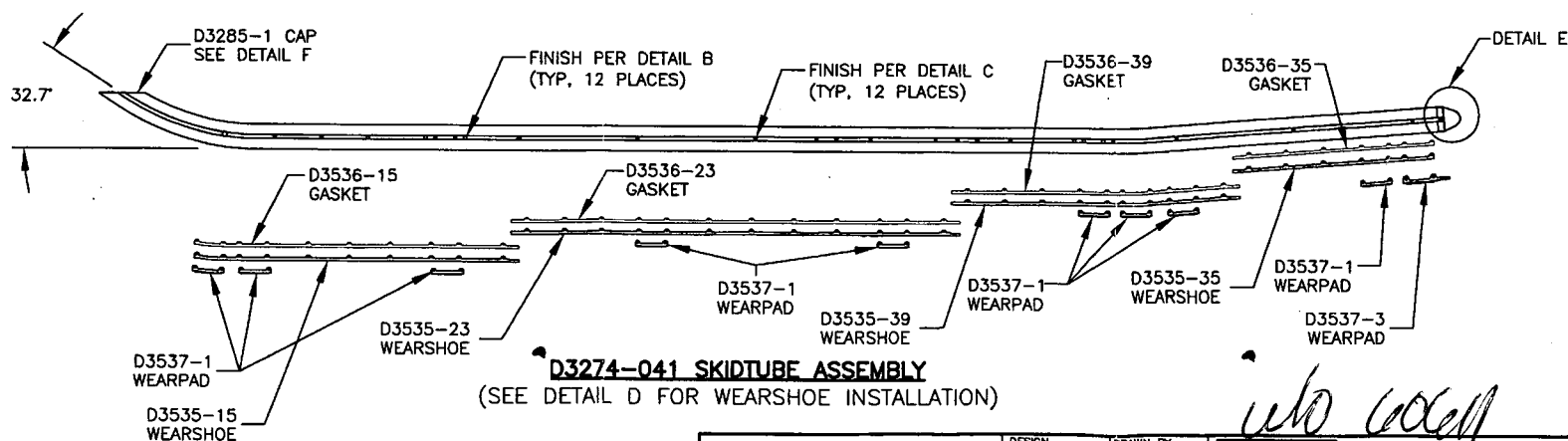
DEO ATTACHED



**D3274-041 DRILLING/ASSEMBLY DETAIL**



**D3274-041 BEND/DRILLING DETAIL**



**D3274-041 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

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DESIGN	CP	DRAWN BY	PH	<b>DART</b>	DART AEROSPACE USA, INC.
CHECKED	#	APPROVED	#	DRAWING NO.	D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D	SHEET 2 OF 4
				SCALE	1:15

**Dart Aerospace Ltd**

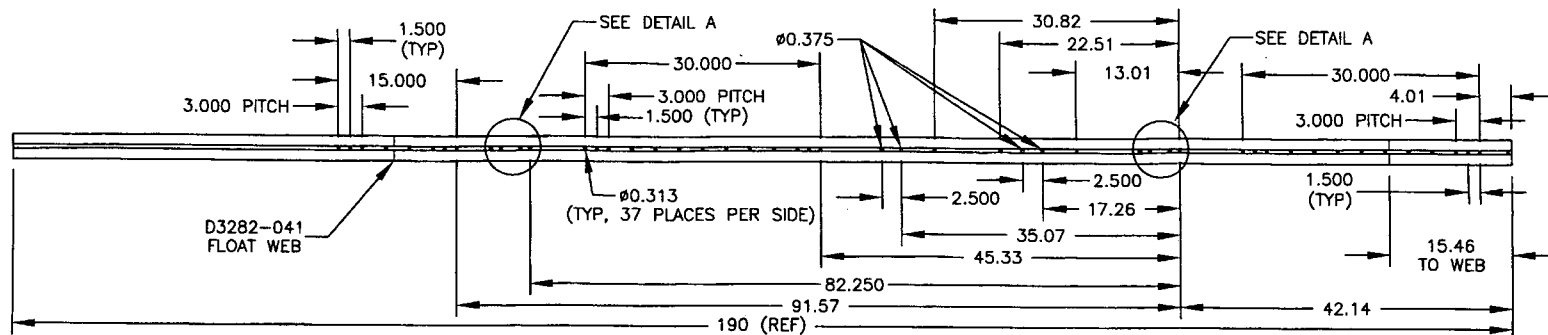
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

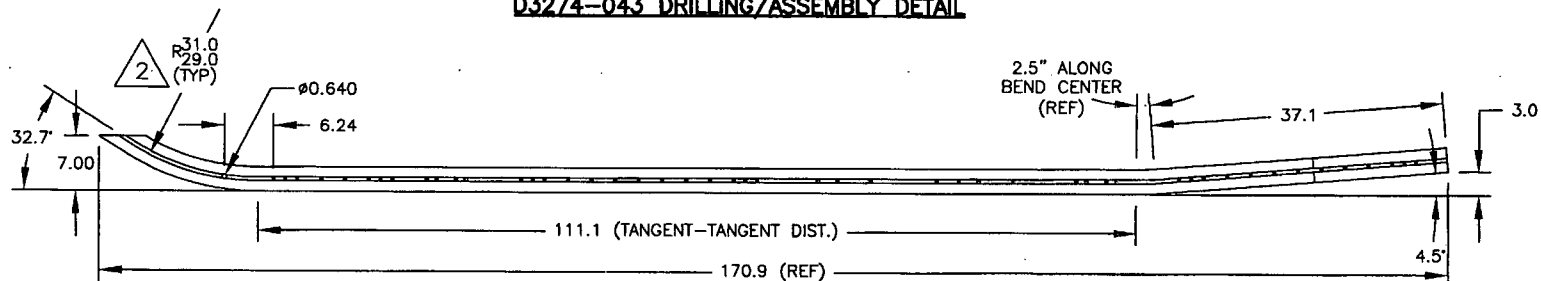
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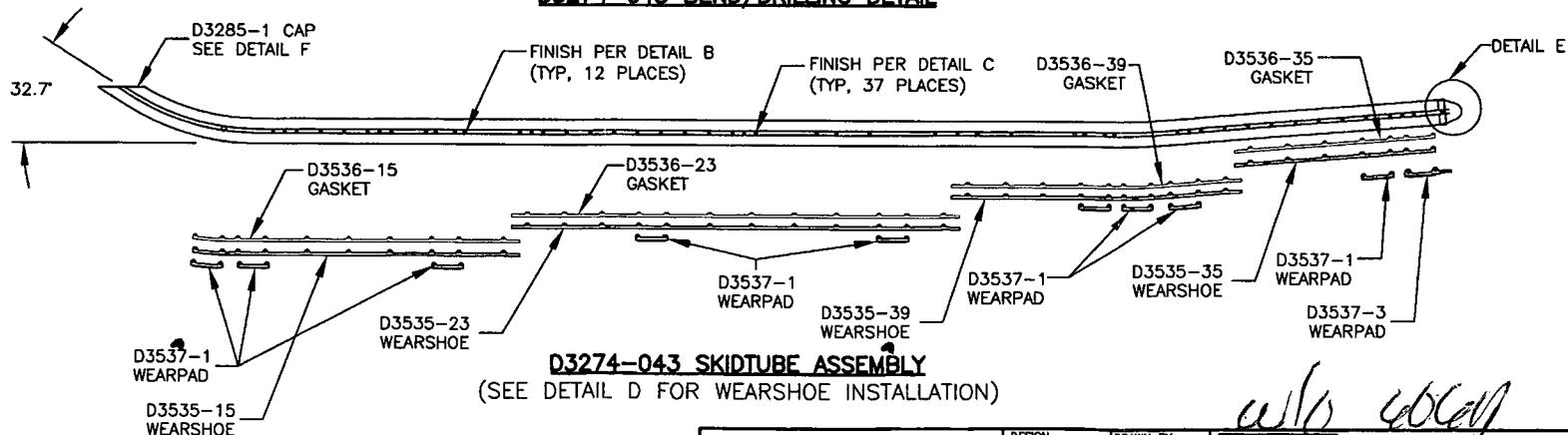
DEO ATTACHED



**D3274-043 DRILLING/ASSEMBLY DETAIL**



**D3274-043 BEND/DRILLING DETAIL**



**D3274-043 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. FORT WADSWORTH, WA
CHECKED	#	APPROVED	#	DRAWING NO. D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D SHEET 3 OF 4 SCALE 1:15

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

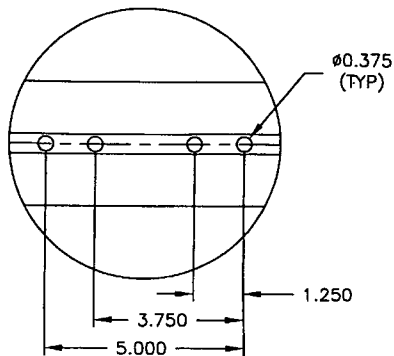
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 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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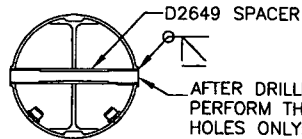
**NOTE:** Date & initial all entries



# **DETAIL A: DRILL DETAIL**

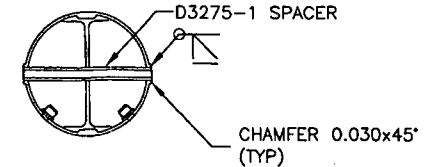


# **DETAIL B** FOR 0.375 HOLES ONLY

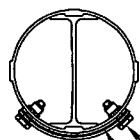


- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR 0.375  
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE TO 0.313x0.75 DEEP

# **DETAIL C** FOR 0.313 HOLES ONLY



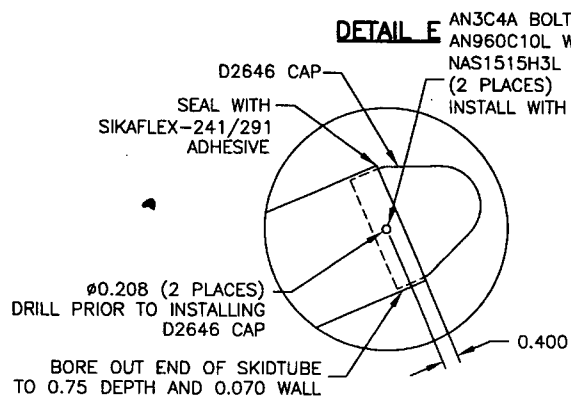
# **DETAIL D**



- ALS7-1032-130 INSERT (1)  
AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

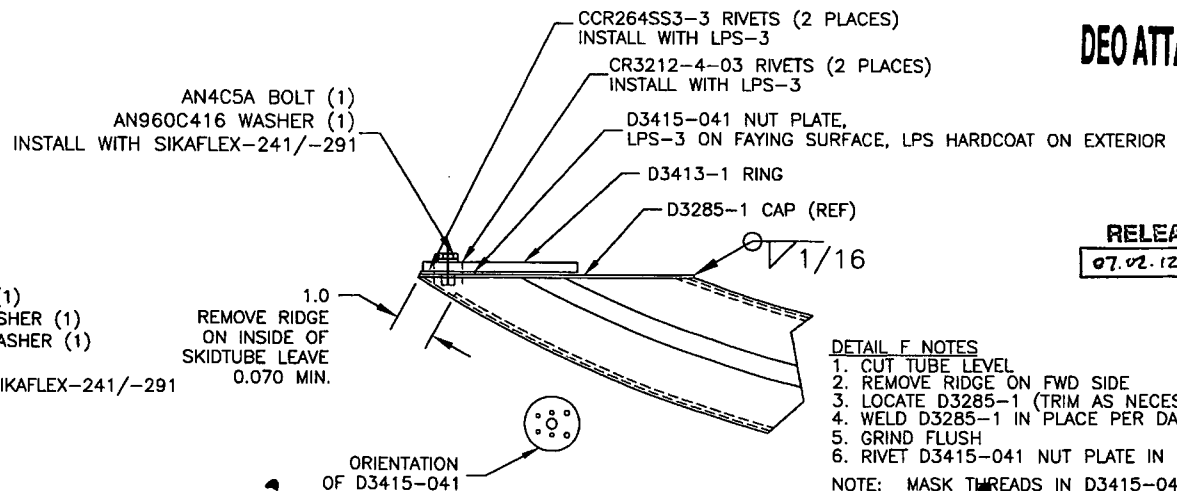
# **DETAIL E**



0.208 (2 PLACES)  
DRILL PRIOR TO INSTALLING  
D2646 CAP

BORE OUT END OF SKIDTUBE  
TO 0.75 DEPTH AND 0.070 WALL

# **DETAIL F: END FINISHING DETAIL**



- DETAIL F NOTES**
1. CUT TUBE LEVEL
  2. REMOVE RIDGE ON FWD SIDE
  3. LOCATE D3285-1 (TRIM AS NECESSARY)
  4. WELD D3285-1 IN PLACE PER DART QSI 004
  5. GRIND FLUSH
  6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

**DEO ATTACHED**

**RELEASED**  
07.02.12

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DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED	#	APPROVED	#	DRAWING NO. D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D SHEET 4 OF 4 SCALE 1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

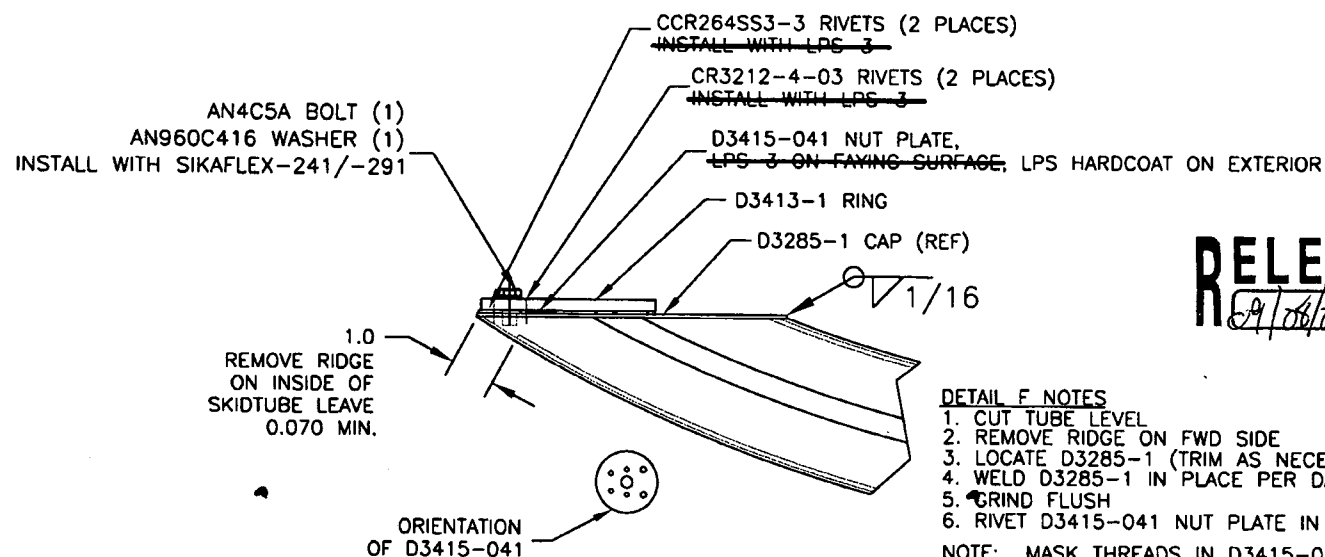
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	<b>DART AEROSPACE USA, INC</b>	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>2</i>	MFG. APPR. <i>M</i>	APPROVED <i>MAP</i>	DE APPR. <i>#</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS-3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

### DETAIL F: END FINISHING DETAIL



**RELEASED**  
09/06/23

#### DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

*who 60611*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 235

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Berley Elliott  
Job number: 59780  
Part number: D206-642-541  
Description: 206 skid tube  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminium  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:  
Penetration:

pass ☒ fail ☐  
pass ☒ fail ☐

UNACCEPTABLE

Cracks:  
Undercut:  
Pin holes:  
Overlap (cold lap)  
Porosity (surface):  
Coloration:

pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐

Qualifier P. A. D.

Date of Test Coupon 10.07.01

Welder Berley Elliott

Date of Test Coupon 10.07.01

The above named individual is qualified in accordance with AWS D17.1.2001 to weld